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CSIR NET - GENERAL APTITUDE

QUANTITATIVE APTITUDE

L-11

Calendar
Blood relationship

IfAS

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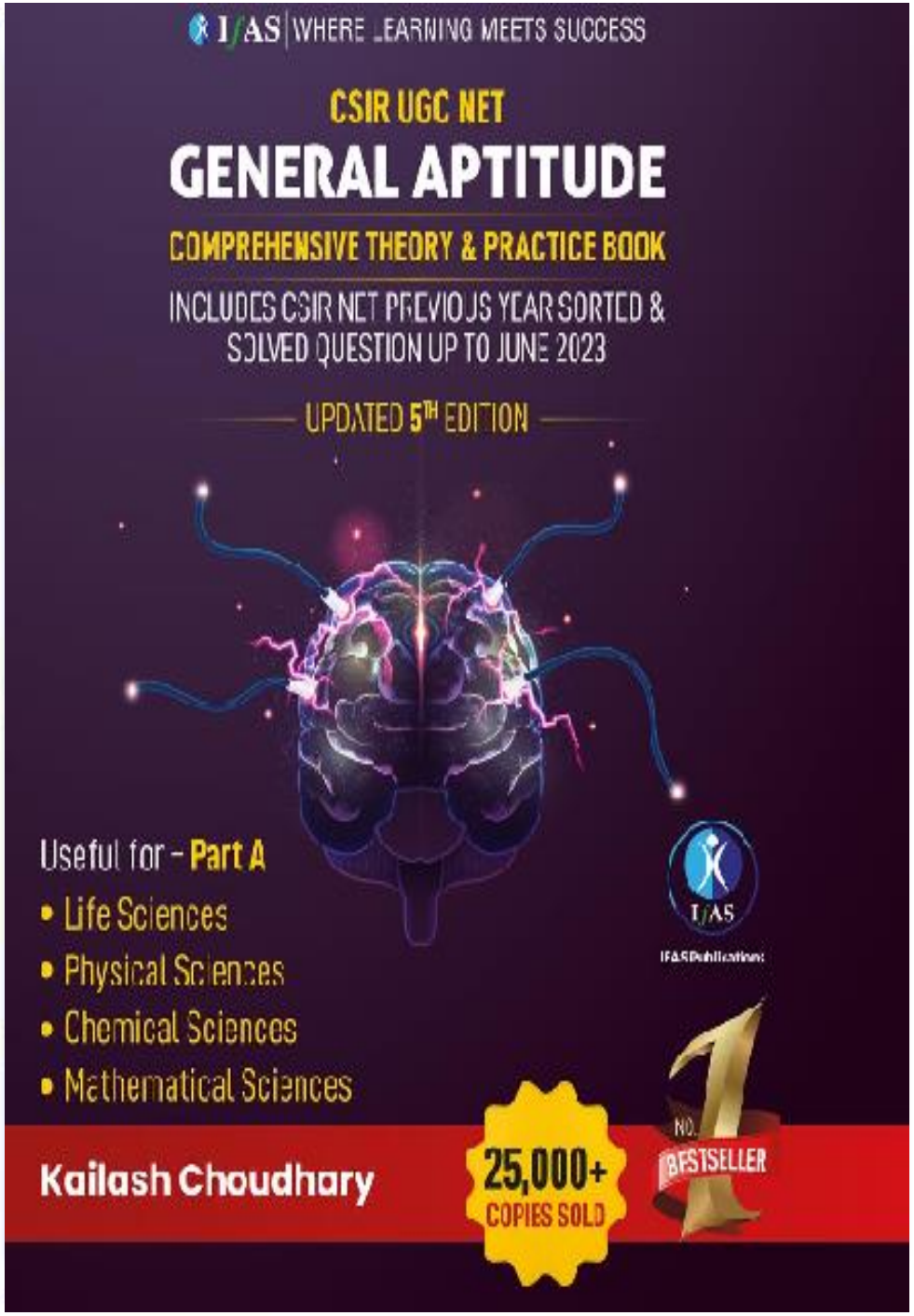
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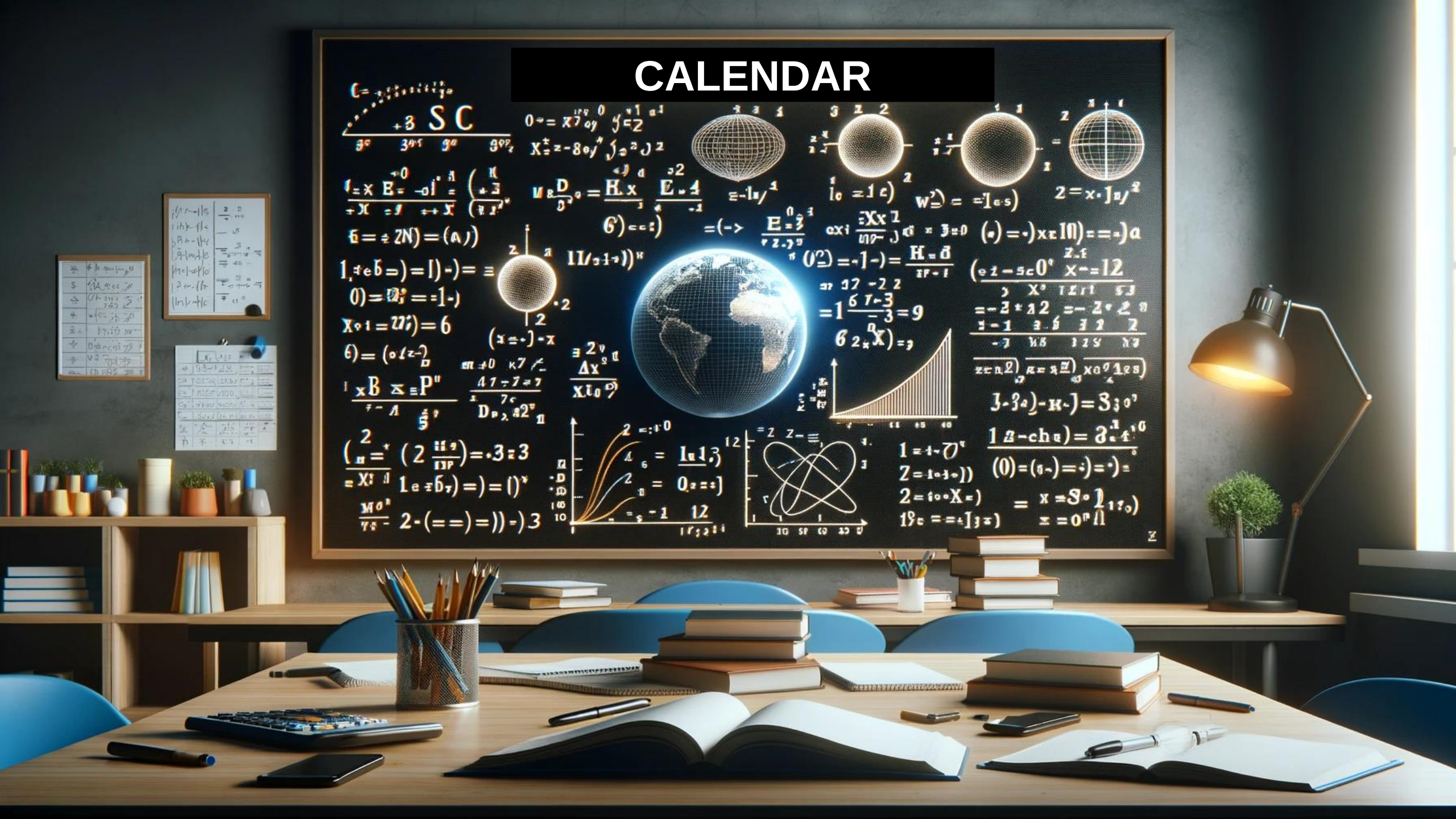
Topic Covered in Today's Session

1. What is Calendar ?
2. Concept of odd day
3. Blood relationship
4. Practice questions

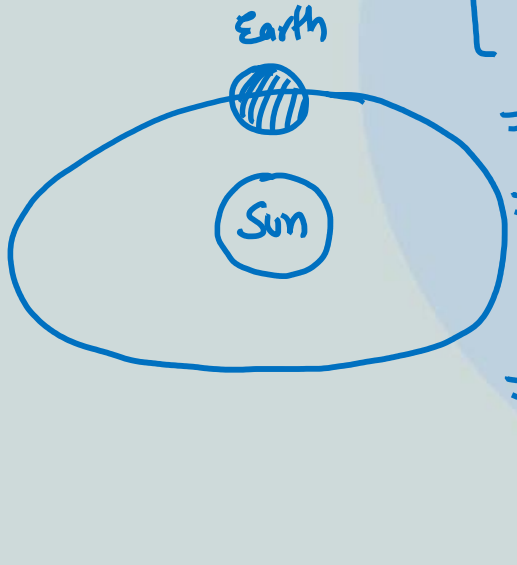

CALENDAR

What is Calendar ?

A **Calendar** is a chart or series of pages showing the days, weeks and months of a particular year, or giving particular seasonal information.

$4\overline{)2024}$

1 Year → 365 days → Ordinary Year
→ 366 days → Leap Year



⇒ 365 days 6 hours
⇒ 365 day 6 hours
⇒ 365 day 6 hours
⇒ 365 day 6 hours
↓
366 days

1 days

2008 → Leap
2010 → Ordinary
2016 → Leap

Concept of odd day

The days more than the complete number of weeks in given period are called odd days.

Counting of Odd Days:

- **1 ordinary year = 365 days =** 1
- **1 leap year = 366 days =** 2
- **100 years = 76 ordinary years + 24 leap years =**

- Number of odd days in 100 years = 5.
- Number of odd days in 200 years = 3 odd days.
- Number of odd days in 300 years = 1 odd day.
- Number of odd days in 400 years = 0 odd day

Concept of an Odd Day

Month	Number of odd days
January	3
February(ordinary/leap)	(0/1)
March	3
April	2
May	3
June	2
July	3
August	3
September	2
October	3
November	2
December	3

1 week

1 year → 365 days (ordinary year) → 52 weeks + 1 day

7 | 365 | 52 week
35
15
14
1 days

1 day → Odd day

Leap year

366 days → 52 weeks + 2 days

7 | 31 | 4
28
3 → odd days

7 | 28 | 4
28
0

7 | 29 | 4
28
1 odd

⊛ Century years → 2000 → Century year & leap year

→ 2100 → Non-leap year / ordinary year

→ 1900 → 0.Y

→ 1800 → 0 Y

→ 2400 → Leap year

400 | 2000 | 5
2000

×

400 | 2100 | 5
2000

100

Leap year ?

① ✗ 1900 ② 1600

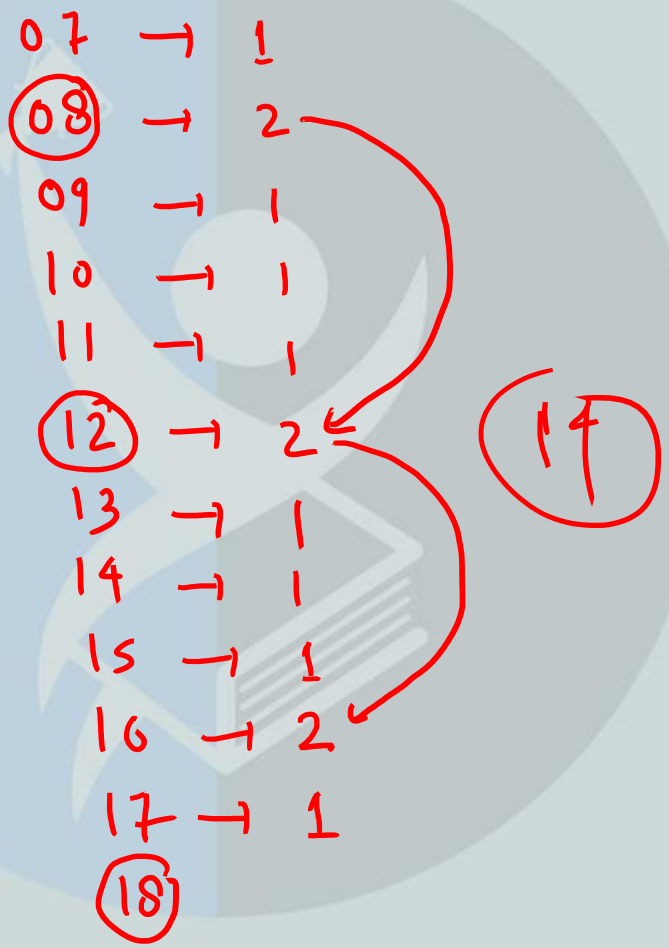
③ ✗ 1717 ④ ✗ 1100

Q1. Which year in the future will have the same calendar exactly as 2009 ?

A. 2010 ✗
B. 2013 ✗
C. 2015 Ans
D. 2017

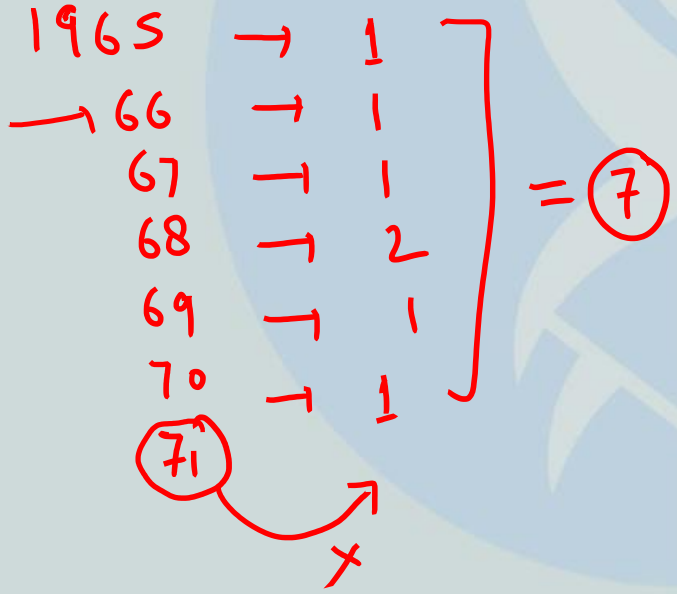
Q2. The calendar for the year 2007 will be the same for the year:

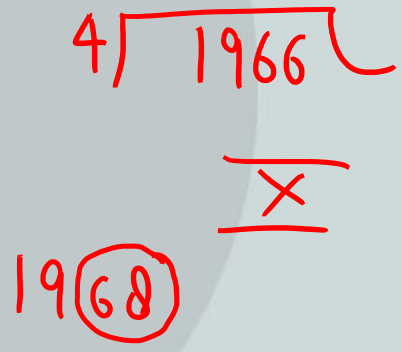
A. 2014
B. 2016
C. 2017
D. 2018



Q3. If Varun celebrated his anniversary on Tuesday January 5, 1965, when will he celebrate his next anniversary on the same day?

(1) January 5th, 1970
(2) January 5th, 1971
(3) January 5th, 1973
(4) January 5th, 1974





2023 → ordinary year

January						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

2020

January

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

March

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

July

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November

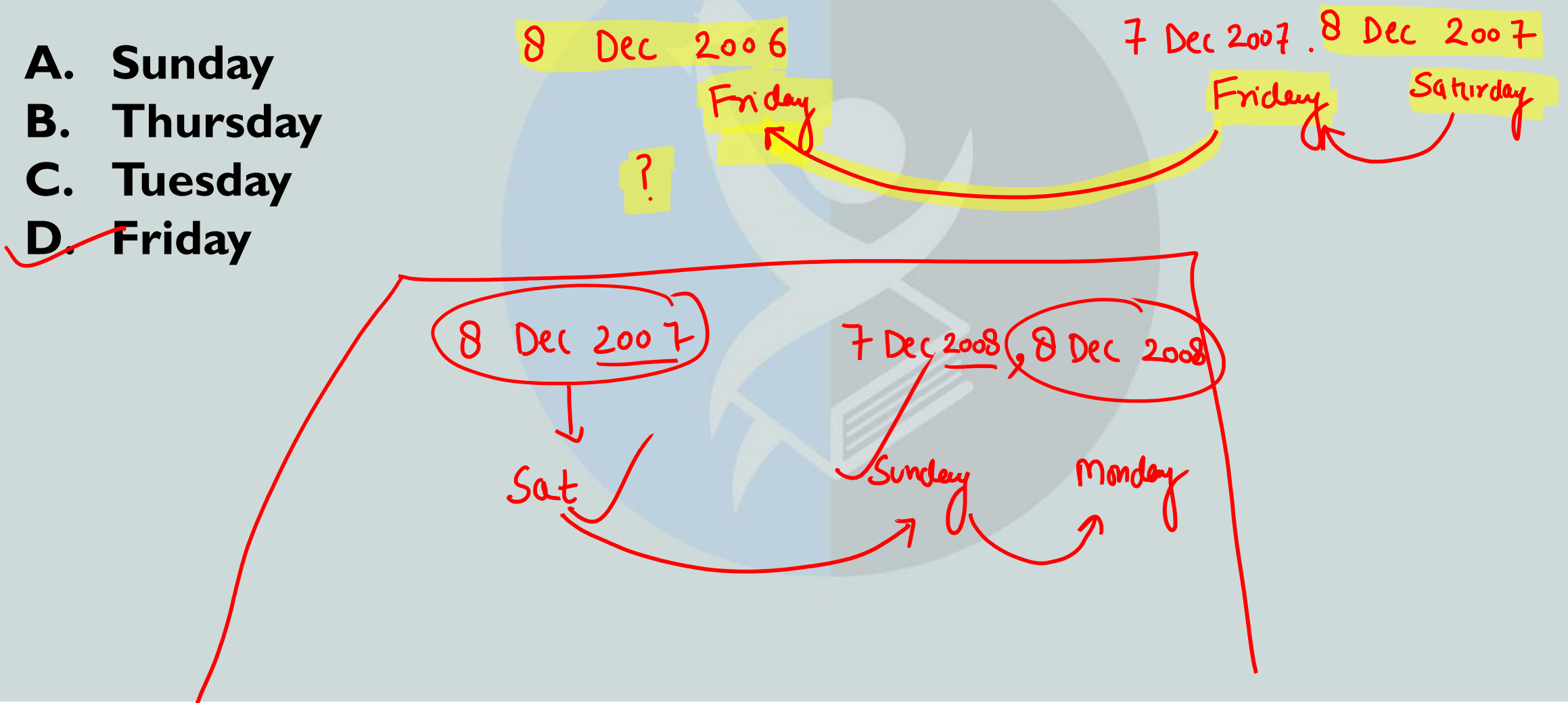
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Q5. On 8th Dec, 2007 Saturday falls. What day of the week was it on 8th Dec, 2006?

A. Sunday
B. Thursday
C. Tuesday
D. Friday



Q6. On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004 ?

A. Tuesday
B. Monday
C. Sunday
D. Wednesday

Codes

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ordinary	1	4	4	0	2	5	0	3	6	1	4	6
Leap	0	3	4	0	2	5	0	3	6	1	4	6

Day	Code
Sun	1
Mon	2
Tue	3
Wed	4
Thu	5
Fri	6
Sat	0

Century	Code
1600	6
1700	4
1800	2
1900	0
2000	6
2100	4
2200	2
2300	0

3 May 2024 → Friday

Day's code = (Date + Month + year + Century + Leap year) / 7

Day's code ⇒ Remainder ⇒

$\Rightarrow \frac{3+2+24+6+6}{7}$

$= \frac{41}{7} \Rightarrow$ Rem ⇒ 6

Q7. What day of the week was on 15 MAY 1995?

(1) Monday (2) Thursday (3) Friday (4) Saturday

Day's code = $\frac{15 + 2 + 95 + 0 + 23}{7}$

7 | 135 | 19
7
65
63
2 Rem

4 | 95 | 23
8
15
12
3 ×

2001
year = 1
4 | 1 | 0

Q8. What day of the week was on 15 April 1983?

1 4 4 0 25

(1) Wednesday (2) Thursday (3) Friday (4) Saturday

1900 → 0

4 | 8 3 (20)
8
(3)

$\Rightarrow \frac{15 + 0 + 83 + 0 + 20}{7}$

$\Rightarrow$ 7 | 118 (16
7
48
42
(6) → Friday

Q9. What day of the week was on 5 April 1968?

(1) Wednesday (2) Thursday (3) Friday (4) Saturday

Q10. What day of the week was on 12 JUNE 1983?

(1) Wednesday (2) Thursday (3) Friday (4) Sunday

0 3

4|25|6
24

5 Jan 2024

0

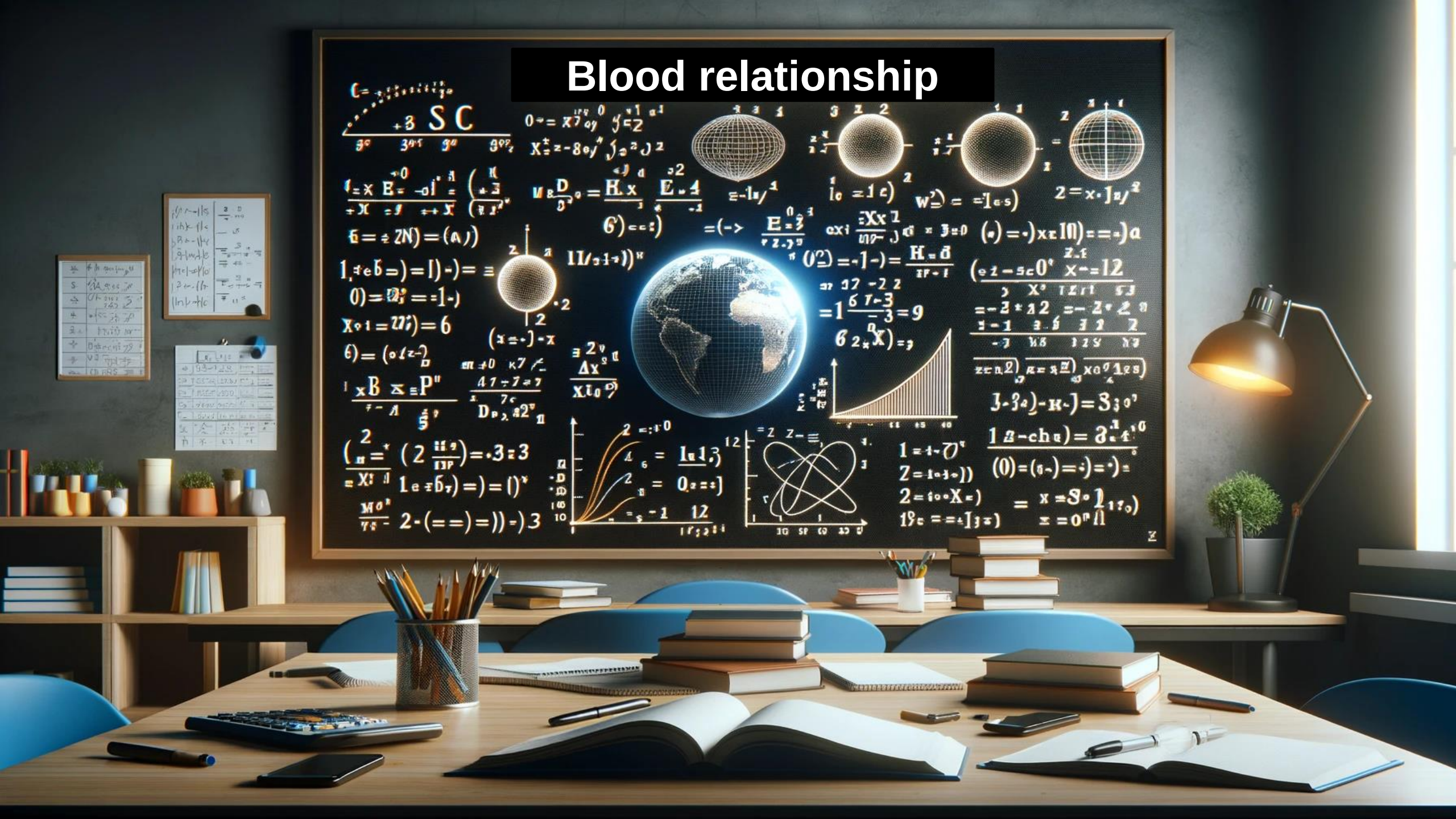
$\frac{5+0+24+6+6}{7} \Rightarrow$ 7|41|5, 35, 6 Friday

$\frac{15+3+32+6+8}{7}$

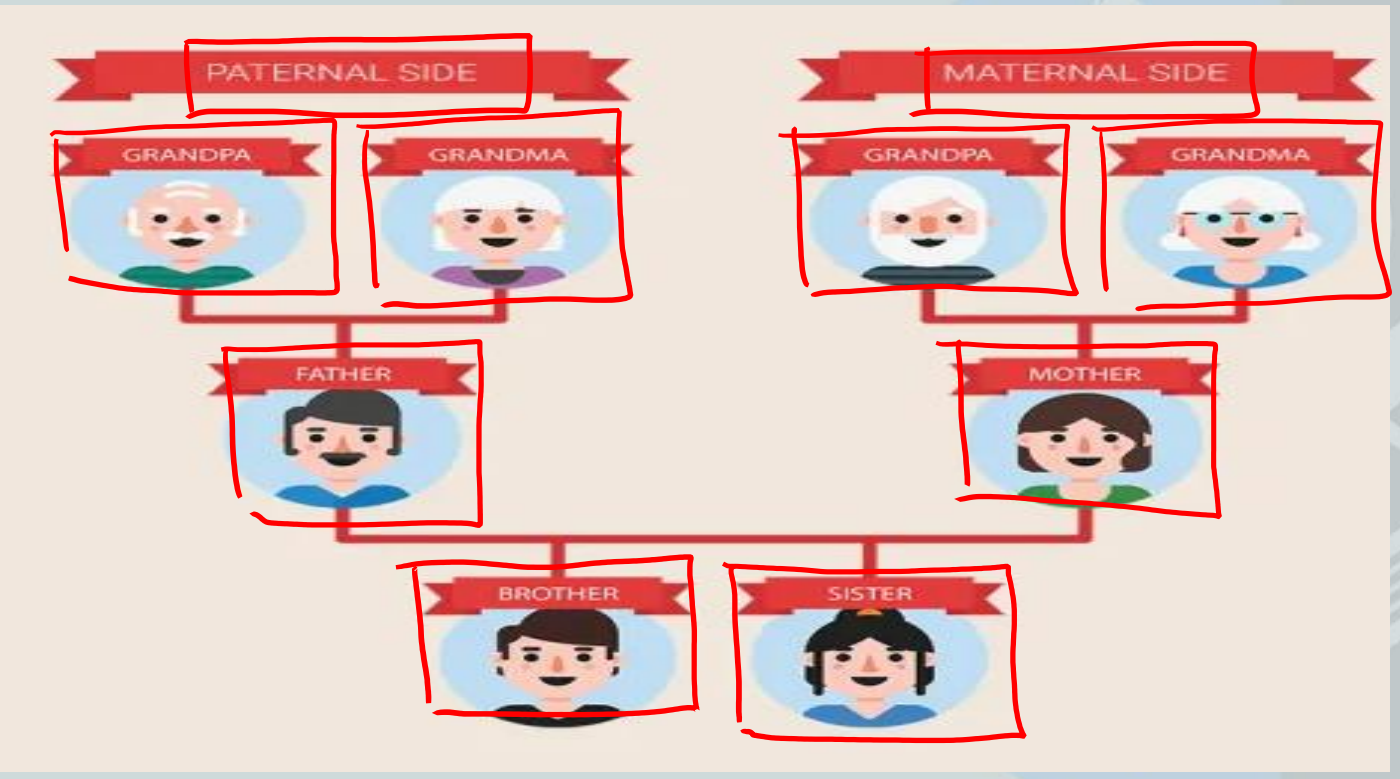
7|64|9
63
1 → Sunday

15 Feb 2032

Blood relationship



Blood relationship



Basic rules

A^{+} ①

(+)

Grand Father

Father

Brother

Son

uncle

Father in law

Nephew

(−)

Grand Mother

Mother

Sister

daughter

Aunt

Mother in law

Niece

B^{-}

Basic rules

② Married Couples : (=)

$A^+ = B^-$

③ Siblings (−)

Bro - Bro
Bro - Sis
Sis - Sis

$B^- - D^+$

④ Generation Gap (1)

Older generation → D^+

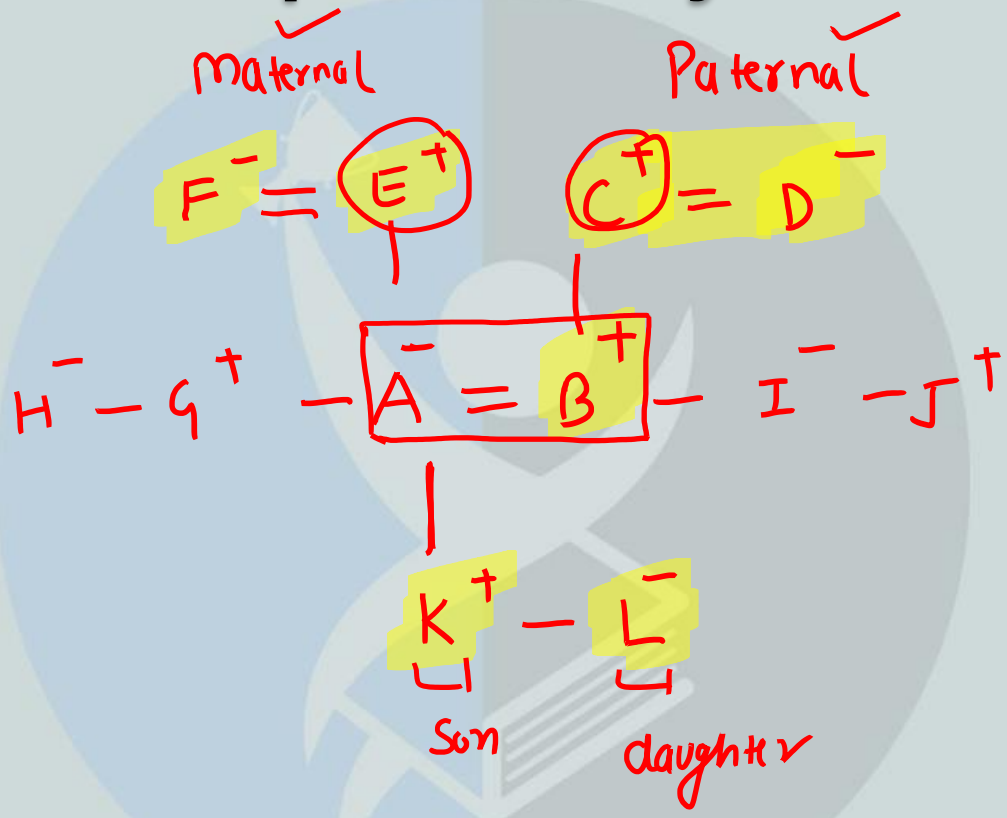
Younger generation → E^-

$A^+ = B^-$

$C^- = D^+$

E^+

Concept of family tree

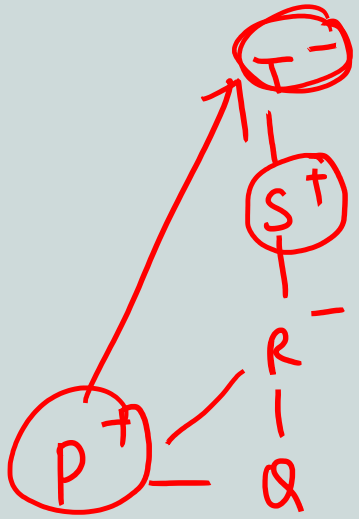


Relationship	Term for the relation
Father’s son or mother’s son	Brother
Father’s daughter or mother’s daughter	Sister
Mother’s brother (younger or elder)	Maternal Uncle
Father’s brother (younger or elder)	Uncle (Paternal)
Father’s sister (younger or elder)	Aunt
Mother’s sister (younger or elder)	Aunt
Son’s wife	Daughter-in-law
Daughter’s husband	Son-in-law
Sister’s husband	Brother-in-law
Husband’s brother or wife’s brother	Brother-in-law
Brother’s wife	Sister-in-law
Mother of grandfather or Mother of grandmother	Great grandmother

Husband’s sister or wife’s sister	Sister-in-law
Husband’s father or wife’s father	Father-in-law
Husband’s mother or wife’s mother	Mother-in-law
Brother’s son or sister’s son	Nephew
Brother’s daughter or sister’s daughter	Niece
Uncle’s daughter or aunt’s daughter	Cousin
Uncle’s son or aunt’s son	Cousin
Father’s father or mother’s father	Grandfather
Father’s mother or mother’s mother	Grandmother
Father of grandfather or father of grandmother	Great grandfather
Mother of grandfather or Mother of grandmother	Great grandmother

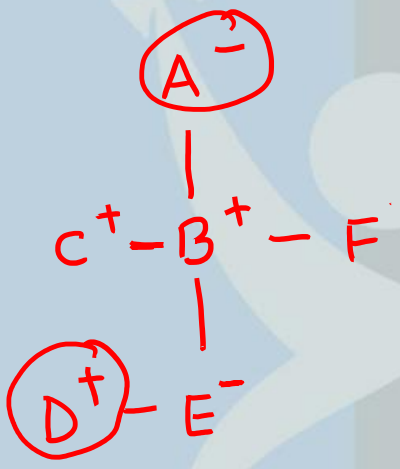
Q1. P is Q's brother, R is Q's mother, S is R's father, T is S's mother. What is the relation of P with T?

(A) Granddaughter
(B) Great Grandson
(C) Grandson
(D) Grandmother



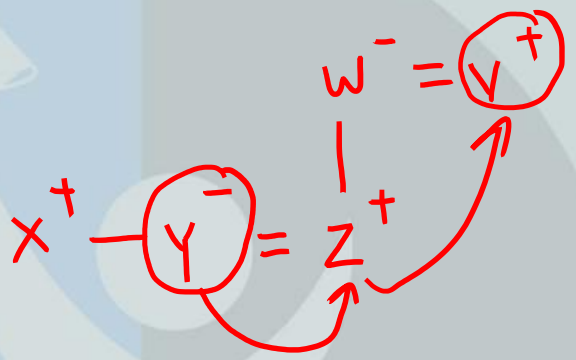
Q2. A is a mother of B, C is a son of A, D is a brother of E, E is a daughter of B, B is a brother of F, then D is a grandson of whom ?

(A) A
(B) B
(C) C
(D) D



Q3. X is Y's brother, Y is Z's wife, Z is W's son, W is V's wife. What is the relation of V with Y ?

(A) Mother-in-law
(B) Brother-in-law
(C) Father-in-law
(D) Son-in-law



Q4. A & B are sister, R & S are brothers, daughter of A is sister of R, then what is the relation of B with S?

(A) Mother
(B) Grandmother
(C) Sister
(D) Aunt

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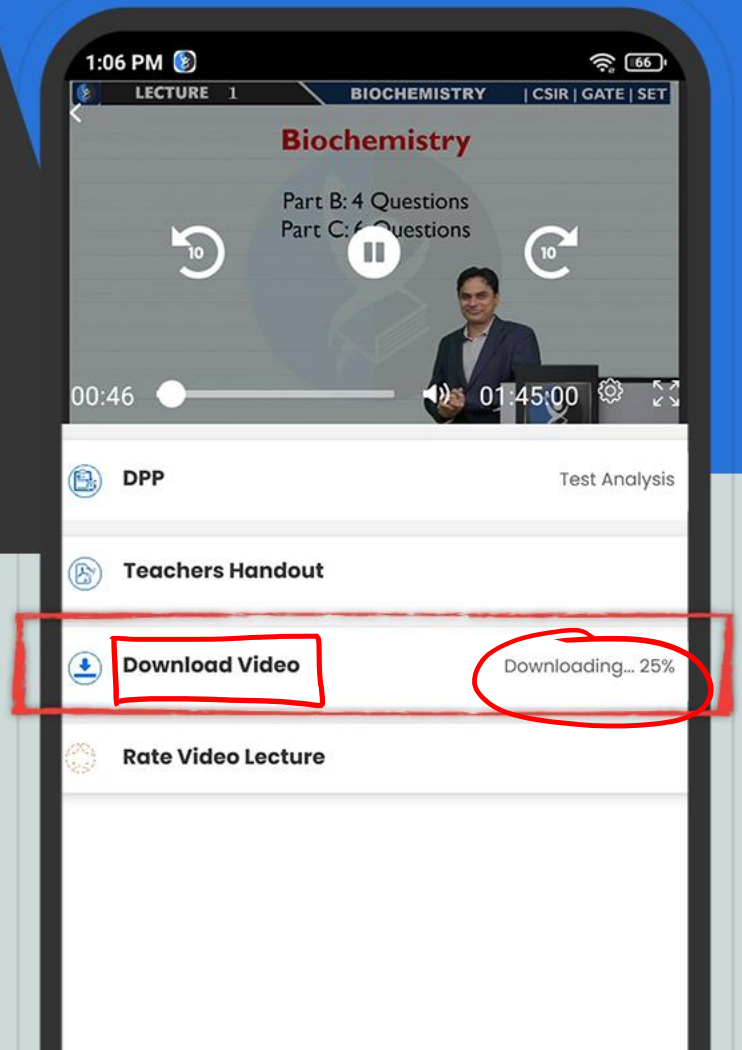

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